

REMARKS

This amendment is responsive to the Office Action dated 4 October 2001. Claims 1 to 16 are pending in this application. All claims have been rejected. No new matter has been added.

Claim rejections - 35 USC §102 and 103

Applicant submits that the proposed amendments overcomes the anticipation by Ada et al.

Ada et al discloses an ink jet printhead that has an ink jet chamber and an air chamber that are both connected to an air source. Ink is discharged from the ink discharge ports and travels through the air discharge ports onto printable media.

The ink is prevented from exiting the ink discharge ports by air pressure being supplied at the same pressure from the air chamber as the ink chamber to keep the meniscus in a stable position. Ink droplets are discharged through the ink discharge ports by creating a potential difference between a common electrode and a control electrode. The meniscus of the ink is then stretched toward the air discharge ports by an electrostatic force produced by the potential difference. The droplet is then delivered by the flowing air through the air discharge port onto the printable media.

The ink droplets therefore must travel at the same or lower velocity than that of the air that is causing the movement of the ink. Any turbulence in the air flow will have a dramatic effect on the flow of ink through the air discharge ports. Further, the pressure that must be generated by the air force is relatively large to achieve a substantial operating velocity to deliver the ink droplets at a desired rate and also to maintain stability of the ink meniscus when ink drops are not being delivered.

Applicant submits that the above application discloses that the ink droplets are ejected from the nozzles at a velocity that is higher than the air that is passed through the passageways. In this respect, the flow of air will have less of an effect on the behaviour of the ink droplet as it passes through the passageways onto printable media. This allows better control over the behaviour of the ink droplet as it is transported onto the printable media. Further, a smaller air force is required as the air is not used to carrier the ink droplets

through the passageways. This provides increased power savings and allows for further miniaturisation of the printhead.

Applicant submits that claim 9 is therefore not anticipated by Fuji et al.

Applicant also submits that as the remaining claims are dependent upon claim 9, these claims should also be allowed.

CONCLUSION

It is respectfully submitted that all of the Examiner's objections have been successfully traversed. Accordingly, it is submitted that the application is now in condition for allowance. Reconsideration and allowance of the application is courteously solicited.

Very respectfully,

Applicant:



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TITLE OF THE INVENTION

Printed Media Production



INVENTOR

Kia Silverbrook

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CO-PENDING APPLICATIONS

Various methods, systems and apparatus relating to the present invention are disclosed in the following co-pending applications filed by the applicant or assignee of the present invention simultaneously with the present application:

- 10 NPA001US, NPA002US, ~~NPA003US~~, NPA004US, NPA005US, NPA006US,
NPA007US, NPA008US, NPA009US, NPA010US, NPA012US, NPA016US,
NPA017US, NPA018US, NPA019US, NPA020US, NPA021US, NPA030US,
NPA035US, NPA048US, ~~NPA050US~~, ~~NPA051US~~, ~~NPA052US~~, NPA075US,
NPB001US, NPB002US, NPK002US, NPK003US, NPK004US, NPK005US,
15 ~~NPK007US~~, NPM001US, NPM002US, NPM003US, NPM004US, NPN001US,
~~NPN002US~~, ~~NPN003US~~, NPP001US, ~~NPP002US~~, NPP003US, NPP005US,
NPP006US, NPP007US, NPP008US, NPP016US, NPP017US, NPP018US,
~~NPP019US~~, NPS001US, NPS003US, NPS020US, NPT001US, NPT002US,
NPT003US, NPT004US, NPX001US, NPX003US, NPX008US, NPX011US,
20 NPX014US, NPX016US, ~~NPX020US~~, ~~NPX022US~~, IJ52US, IJM52US,
MJ10US, MJ11US, MJ12US, MJ13US, MJ14US, MJ15US, MJ34US,
MJ47US, ~~MJ52US~~, MJ58US, MJ62US, MJ63US, MJ64US, MJ65US,
MJ66US, PAK04US, PAK05US, PAK06US, PAK07US, PAK08US,
PEC01US, PEC02US, PP01US, PP02US, PP03US, PP04US, PP07US,
25 PP08US, PP09US, PP10US, PP11US, PP12US, PP13US, ~~PP14US~~, PP15US,
PP16US, PP17US.

The disclosures of these co-pending applications are incorporated herein by cross-reference. ~~Each application is temporarily identified by its docket number. This will be replaced by the corresponding USSN when available.~~

MARKED UP CLAIMS

Please amend the claims as follows:

1. (Delete)
2. (Delete)
3. (Delete)
4. (Delete)
5. (Delete)
6. (Delete)
7. (Delete)
8. (Delete)

9. (Amended)

A printhead for an ink jet printer, the printhead including:

an array of nozzles and respective colorant ejection means for ejecting colorant onto a media substrate to be printed; and,

a nozzle guard positioned to inhibit damaging contact with the exterior of the array of nozzles(.);

said nozzle guard having a shield covering the exterior of the nozzles,

said shield having an array of passages in registration with the array of nozzles so as not to impede the normal trajectory of the colorant ejected from each nozzle;

said nozzle guard including fluid inlet openings for directing fluid through said passages, to inhibit the build up of foreign particles on the nozzle array, wherein:

said fluid is passed through said passages at a velocity that is less than the velocity of the ejected colorant.

10. (Delete)
12. (Delete)